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ABSTRACT

Using Fiedler's Contingency Model of Leadership Effectiveness, which postulates that the behavior of a leader depends on the interaction between leadership style and the degree to which the environment gives the leader control and influence, a study investigated the effects of training and changes in position power on the behavior of three types of leaders with different motivational systems. The leader style of female college students was measured by means of the Least Preferred Coworker (LPC) Scale, which identifies relationship-motivated, task-motivated, and independence-oriented leaders. To test if subject behaviors vary with the favorableness of the situation and the person's LPC score, an In-basket simulation was constructed. A 2 x 2 x 3 factorial design manipulated high and low position power (2) and training (2), and used subjects with high, middle, and low LPC scores (3). Dependent measures were seven behavior categories based on the subjects' displayed behaviors, scores on an uncertainty scale, and scores on the Wonderlic Personnel Test of educational achievement. Statistical analyses were performed to test three hypotheses. Conclusions from the findings include these: (1) Directing and pleading are situationally determined behaviors while searching for information as well as threatening and criticizing are the result of interaction between the situation and the personality of the subject, and (2) a relatively short and non-intense training program resulted in a search for information under different conditions. Data analysis and suggestions for further research are included in the report. A 20-item bibliography and four evaluation scales are appended: Manipulation check questions, group atmosphere scale, LPC scale, and uncertainty scale. (JT)

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THE INFLUENCE OF TRAINING AND POSITION POWER ON LEADER BEHAVIOR

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Technical Report 75-72

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Footnote

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Introduction

This study investigates the effects of training and changes in position power on the behavior of three types of leaders with different motivational systems.

Fiedler's Contingency Model of Leadership Effectiveness (]967) postulates that the behavior of a leader depends on the interaction between leadership style and the degree to which the environment gives the leader control and influence. The leader's style is measured by means of the Least Preferred Coworker (LPC) Scale, a 25-item bipolar adjective scale which asks an individual to rate a coworker with shom he or she had the most difficulty in working on a common task. The ratings are summed over the 25-item scale. A relationship-motivated (high LPC) person differentiates between relationship-oriented and task-oriented items and describes the least preferred coworker in relatively positive terms. A task-motivated (low LPC) person describes the poor coworker in very negative, rejecting terms, indicating that he neither likes him on a personal basis nor could he work with him effectively.

The favorableness of a situation is measured on the basis of leader-member relations, the structure of the tasl that must be performed, and the leader's position power. Each of these variables is usually dichotomized at the median into high and low groups. These are then combined to form a situation favorableness dimension, as illustrated in Figure 1.

Insert Figure 1 about here

The relatively objective assessment of these three environmental variables, which allow us to arrive at a measure of situational favorableness for the leader, is unique to Fiedler's model. Social scientists have long searched for an accurate representation of the environment in experimental designs (Brunswick, 1953), and

Figure 1

Situational Favorableness Dimension

Leader-member relations	Good	Good	Good	Good	Poor	Poor	Poor	Poor
Task structure	Structured		Unstructured		Structured		Unstructured	
Leader Position power	Strong	Weak	Strong	Weak	Strong	Weak	Strong	Weak
Octant	I	II	III	IV	V	VI	VII	VIII
Situation described as	Very favorable		Moderately favorable				Very unfavorable	

the Contingency Model appears to have captured three highly relevant variables for assessing the leadership situation, as far as can be judged from empirical results of this theory.

While variations in leader-member relations have been shown to have great impact on an individual's behavior (Michaelsen, 1973), the influence of task structure and position power has not been evaluated sufficiently in an experimental setting. The present study compares the effects of high and low position power and the effects of training on the behavior of relationship-, and task-motivated individuals in a laboratory experiment. Training was chosen as an independent variable because studies by Csoka and Fiedler (1972), Fiedler (1972b), and Chemers, Rice, Sundstrom, and Butler (1974) have shown that task-training can be conceptualized as improving task-structure and, therefore, conditions with and without training should bring about similar behavior changes as conditions with high and low task-structure. In addition, the manipulation of training made it possible to investigate what behaviors were influenced by the administration of training -- a vital issue in management research, which attempts to assess the effects of task-training on employee behavior and performance.

Earlier laboratory studies have shown that high LPC individuals generally emit human relations oriented behaviors in relatively unfavorable situations and task-oriented behaviors in favorable situations. Low LPC individuals, on the other hand, stress human relations in favorable situations but task-oriented behaviors in unfavorable situations (Fiedler, 1972a; Green, Nebeker, and Boni, 1973; Larson and Rowland 1973). A possible explanation for these results is provided when one examines the primary motives of high and low LPC scorers. While a low LPC score is interpreted as reflecting a motivation to accomplish the task, a high LPC score seems indicative of a motive to relate to people. We assume that individuals fall back on their primary, more "primitive" behaviors in unfavorable, anxiety arousing situations. This would explain why in an unfavorable situation low LPC subjects behave in a manner that accomplishes the task and high LPC subjects concentrate on improving relations with others (Fiedler, 1971).

Aside from these two behavior dimensions, which are conceptually very similar to the Initiation of Structure and Consideration behaviors of the Ohio State Leadership Studies (Stogdill and Coons, 1957) situation-specific behaviors have not been examined in laboratory experiments. The present study was designed to let the data suggest the behavior categories to be considered rather than having defined them a priori.

We hypothesize that if the leader-member relations as measured by the Group Atmosphere Scale (Appendix, p.II), are poor and all conditions fall into the lower half of the situational favorableness continuum (octants 5 to 8), low LPC subjects will engage in more task-oriented behaviors than high LPC subjects, while high LPC subjects will strive to improve human relations to a greater extent than low LPC subjects.

For exploratory purposes, this study included subjects that scored in the middle range of the LPC scale. They are labelled independence-oriented leaders. Earlier research (Bass, Fiedler, and Krueger, 1964) suggested that these individual behave differently from high and low LPC leaders. They appear to be more independent by neither requiring pleasant interpersonal relations nor striving consistentl to accomplish their task. They are also seen as less punitive and more open to suggestions and more flexible in their judgment and opinions.

Another aspect of this study concerns the relationship between perceived uncertainty and situational favorableness. Uncertainty has been used as an environmental variable by Lawrence and Lorsch (1969) in an attempt to match an organization's external environment with its internal states and processes in order to maximize performance. Nebeker (1975) showed that Fiedler's situational favorableness dimension and Lawrence and Lorsch's environmental uncertainty dimension are closely related. Subjects should, therefore, perceive favorable situations as more certain than unfavorable situations. If we also assume that some behaviors result from an interaction between situations and personality,

we would expect differences in how individuals with different LPC scores cope with uncertainty.

The second hypothesis of this study predicts a perceptual difference between high and low LPC subjects. Low scorers on the LPC scale might perceive unfavorable situations as more certain than high LPC subjects because low LPC scorers should focus more on the execution of the task, and this behavior of "doing something about the problem" should give them a feeling of certainty. In contrast, high LPC scorers should be more certain in favorable conditions, for it is then that they emit task-oriented behaviors.

The final hypothesis of this study concerns mental ability, as measured by the Wonderlic Personnel Test, and its connections with particular behaviors. We hypothesize that individuals with higher scores on the test should have a better understanding of the experimental task and will engage in more behaviors that help to further the execution of the task.

Method

In order to test if subject behaviors vary with the favorableness of the situation and a person's LPC score, the task had to consist of an activity that the subjects could relate to and that elicited some actual behavior. For this reason, an In-Basket test was constructed. It simulates an administrator's paper work and consists of letters, notes, and memos an executive might receive and to which he must respond in written form (Frederiksen et al, 1972).

A 2 X 2 X 3 factorial design manipulated high and low position power (2), and training (2), and used subjects with high, middle, and low LPC scores (3). This resulted in an experiment with 12 cells and 122 subjects, as illustrated below:

Low LPC				Middle LPC				High LPC			
High Pos.Power		Low Pos.Power		High Pos.Power		Low Pos.Power		High Pos.Power		Low Pos.Power	
Trng	No Trng	Trng	No Trng	Trng	No Trng	Trng	No Trng	Trng	No Trng	Trng	No Trng
N=8	N=9	N=9	N=8	N=12	N=10	N=10	N=11	N=9	N=11	N=13	N=12

Each of the cells contained a minimum of eight and a maximum of thirteen female subjects who had been recruited from introductory psychology classes and completed an LPC scale beforehand. They were then randomly assigned to one of the four experimental conditions.

In the high position power conditions the subject imagined herself to be Kim Stratford, a successful graduate student in psychology, who conducts an experiment assisted by four High School students, who are eager to get into the university. In order to evaluate their potential, they are assigned to help her. After Kim Stratford has completed the experiment, she will evaluate the students' performance and make a report to her professor, recommending or discouraging each student's acceptance to the university.

In the low position power conditions, Kim Stratford is an introductory psychology student who had just failed her mid-term. In order to pass the course, she is given the additional assignment of conducting an experiment. Four equally marginal students are supposed to assist, also to get a better grade; but since they do not care particularly whether they pass or fail, Kim Stratford has little influence on them and cannot count on their help. However, if they do not help her, she will not be able to complete the experiment on time.

The subject was told that she had given her coworkers various tasks to get the experiment under way, however, she had to leave town for one week because of a family

emergency. When she returned, she found the four letters, one from each student helper, in her In-Basket, informing her of what the students had done so far and what problems they had encountered. The subject, playing the role of Kim Stratford, had to answer these letters in written form and react to them as she would have in the actual situation.

The training in this study was minimal and consisted of one page of instructions that clarified the approach to be used for dealing with the In-Basket problems, e.g., "When you deal with a particular student's note, keep the whole set-up in mind." In addition, subjects in the training conditions were given an example of how to work on the In-Basket task. The time needed to go through the training material did not exceed ten minutes. Subjects in the no training condition received no instructions in how to deal with the task.

Experimental Procedures. Twelve to twenty-four subjects (each session at least one or two for each cell) participated in each experimental session. As the students entered the room, they identified themselves, received an identification number for the experiment and, depending on their LPC score, were assigned to one of the conditions and handed their work packet.

After the experimenter introduced herself and explained the purpose of the study, the subjects opened their paper stacks and completed the 12-minute Wonderlic Personnel Test. After a short rest period, each subject read the following pages of the packet and proceeded with the In-Basket test. Each person was given as much time as she required. The average time for each session was fifty minutes.

When the task was completed, all subjects answered the manipulation check questions, a group atmosphere scale, an LPC scale, and an uncertainty scale (see Appendix, pp. I-IV).

Dependent Measures. The primary dependent measures were based on the subject's written responses in the different experimental conditions and consisted of the

displayed behaviors. In order to generate the most relevant categories, a random sample of all the answers to the In-Basket items was selected. These responses were distributed, without identification as to the type of subjects or conditions from which they came, to several professors and graduate students who classified the behaviors. The categories consistently named by all raters were included as dependent measures. Seven behavior categories evolved. The first five are similar to behavior categories used for an In-Basket test for school administrations by Hemphill et al. (1972) and for an In-Basket test of organizational climates in the California "Department of Commerce" by Frederiksen et al. (1972). The definitions for these five categories in the In-Basket Scoring Manual (Carlton and Brault, 1971) were adapted for this experiment. The last two categories seem to be specific to this particular study and have not been used in the above mentioned In-Baskets. In contrast to the Carlton and Brault scoring procedures, who rated each category as either absent or present, this study differentiated between five levels of intensity for each behavior on a scale from 1 to 5. These differentiations are described in the Appendix on pages V-VII. All behavior categories were independently rated by three judges. The rater-reliability was r=.95 (Spearman-Brown formula, adjusted for three raters). The following categories were represented in this study:

1. Conceptual Analysis
   Definition: The S's recognition of implications of the problem and/or action and/or solution. The S makes it clear that she has seen more than the immediate implications of the problem(s) presented by the item.
   Example: "Lee and Pat have their questions prepared and are testing them. Everything is going along as planned. See if you could possibly get a room before finals week, right after the committee meeting."

2. Courtesy to Coworkers
   Definition: Any expression or act of courtesy directed by the S to coworkers. The courtesy may be formal, such as "please" and "thank you," or it may be more expansive, such as an offer to help, encouragement, appreciation, or commendation.
   Example: "Thanks for your help! I am planning a meeting of all my helpers, so we can talk about any problems you may have. You have been of great help so far."

3. Asks for Information, Opinion, or Advice from Coworkers
   Definition: Any communication, actual or planned, in which the S asks for task relevant information, opinion, or advice that will be utilized for completing the task.
   Example: "How long did it take your subjects to solve the math questions?"

4. Gives Directions to Coworkers
   Definition: Any response in which the S plans to, or actually gives, directions to coworkers.
   Example: "Be sure you give me the problems soon, and test them out on some subjects before you leave."

5. Sets up Checks on Coworkers
   Definition: The S explicitly checks or plans to check on the work she assigns or has assigned to the coworker.
   Example: "Let us meet on Wednesday at 4:30 in my office, so you can tell me how far you have come with your Language Arts problems."

6. Threatens Retaliation for Non-Compliance
   Definition: Any response in which the S reminds the coworker of her responsibilities and threatens with punishment in case of non-compliance. Severe criticism is also scored here.
   Example: " I hope you have considered the consequence of leaving this experiment at this stage. My evaluation of your behavior will greatly influence your possibilities for entry into the psychology program. If you do not change your mind, I shall be forced to write an unfavorable letter to your professor.

7. Pleads for cooperation
   Definition: Any response in which the S pleads with the coworkers for cooperation and attempts to coax and cajole her into helping with the task.
   Example: "Yeah, I know it is difficult to secure subjects, but we've got to get it done. We have come so far, I'll work with you. If we can get some more people, it would be a lot more accurate."

The second dependent measure is an uncertainty scale (Appendix, p. III). It consisted of a six-item questionnaire that was modeled after a short scale by Sathe (1974). The scale asks questions about three aspects of uncertainty: (1) Not knowing how to respond, (2) lack of information, and (3) not knowing the outcome. These components are similar to those described by Lawrence and Lorsch (1969) and Duncan (1972).

The third and final dependent measure is the Wonderlic Personnel Test. It measures educational achievement and is frequently used by industry for personnel selection purposes. Although the test is not considered to be an adequate predictor of success on a particular job (Droege and Foley, 1972), it does correlate highly with years of education. For research purposes, it is a convenient instrument

that adequately measures levels of achievement of college-age students.

Results

Manipulation Checks

The manipulations were verified with three 8-point scales regarding position power and two scales regarding improved task-structure after training (see Appendix p. I, questions 2 to 6). Table 1 shows the means, standard deviations, and t-values for the manipulation checks. Overall, the differences between the means were significant in the expected direction; however, when the manipulations were analyzed for the three LPC groups separately, it was found that low LPC subjects did not differentiate as clearly between the training conditions as did middle LPC subjects. however, the difference between the means for the training and no training conditions were still marginally significant ($t=1.63$, $df=32$, $p=.11$), and all low LPC subjects remained in the data analyses.

Insert Table 1 about here

Group Atmosphere Scores

The obtained mean group atmosphere score was 57.4. This value places well below the mean of 67.0 for normative group atmosphere scores in laboratory experiments (Posthuma, 1970), and the group atmosphere for all conditions was termed "poor". Thus, all conditions of this study fell into the lower half of the situational favorableness continuum, where the situations are described as "moderately favorable" and "unfavorable" (octants 5 to 8, see Figure 1).

Uncertainty Scale

A factor analysis of the uncertainty scale produced one factor. Since all questions on the scale concern aspects of uncertainty, it can be assumed that the produced factor, indeed, measures uncertainty. A 2 X 2 X 3 analysis of variance showed a marginal main effect for the position power manipulation ($F = 3.704$,

Table 1

Manipulation Checks

High Position Power	Low Position Power
$\bar{X}$ = 16.4	$\bar{X}$ = 13.9
sd = 3.9	sd = 4.0
N = 59	N = 63
t = 3.50 df = 120 p = .001	
Training	**No Training**
$\bar{X}$ = 10.5	$\bar{X}$ = 8.5
sd = 2.9	sd = 3.3
N = 61	N = 61
t = 3.54 df = 120 p = .001	

p=,057), indicating less uncertainty in the high than in the low position power cells.

In two different studies, Nebeker (1975) has shown that situational favorablene and uncertainty are related dimensions. To assess if these results could be replicated in this experiment, the scores on the uncertainty scale were correlated with scores on Fiedler's three situational variables. The results are all significant (a high score indicates uncertainty).

Uncertainty and group atmosphere $r = -.32$, $p = .0001$

Uncertainty and task structure $r = -.35$, $p = .0001$

Uncertainty and position power $r = -.41$, $p = .0001$.

The multiple regression of $R = .54$ is almost identical to the $R = .58$ reported by Nebeker for one of his studies. Consequently, the results of this experiment support Nebeker's assertion that situational favorableness is related to uncertainty

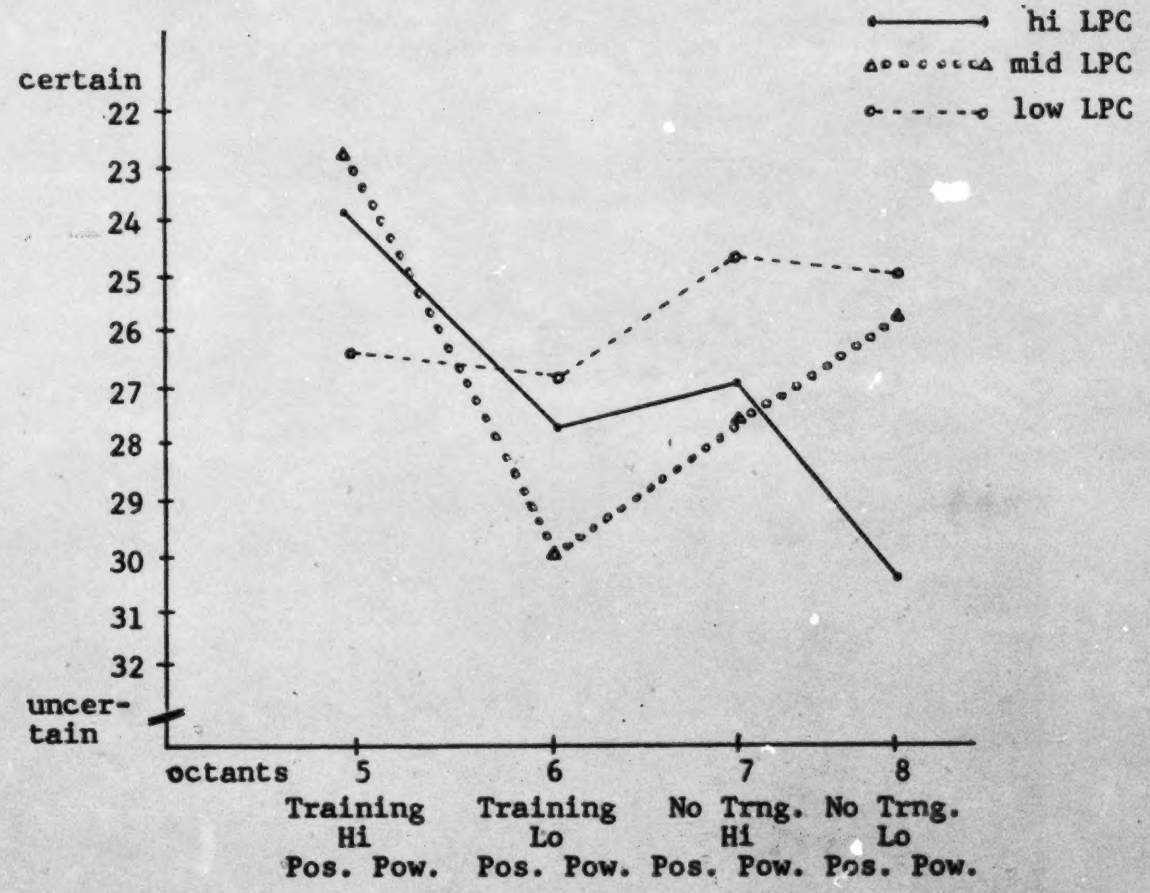
Figure 2 shows that high LPC subjects felt more certain in the moderately favorable situation and uncertain in the unfavorable condition. The trend is revers for low LPC subjects, but is not as pronounced. However, the differences for high and low LPC leaders in perceiving uncertainty are not statistically significant, and we must conclude that hypothesis two, which predicted a perceptual difference between high and low LPC leaders, was not supported.

Insert Figure 2 about here

In order to investigate if leaders with different underlying motivations displayed different behaviors in coping with uncertainty, the uncertainty scores were correlated with the behavior ratings. Table 2 shows the results. (Means and standard deviations for uncertainty and the different behaviors are presented in Table 3.) In general, low LPC subjects seemed to be uncertain when they did not clearly understand the overall task (Uncertainty - Conceptual Analysis $r = -.43$,

Figure 2

Means of Uncertainty Scale



$p \leq .01$, while this was not the case for either middle or high LPC subjects ($r = .01$ and $r = .10$, respectively). While low LPC individuals refrained from asking for information in uncertain situations (Uncertainty - Asking for Information $r = -.25$, $p \leq .10$), high LPC persons tended to do so ($r = .19$, $p \leq .10$), perhaps as a means of relating with co-workers. Low LPC subjects used threats and criticisms to cope with uncertainty (uncertainty - Threatens Retaliation $r = .41$, $p \leq .01$), while high LPC subjects did not ($r = -.26$, $p \leq .05$). Middle LPC subjects did not employ any of the particular behaviors that are represented in this study, in coping with uncertainty.

Insert Tables 2 & 3 about here

Use of Behavior Categories

Analyses of variance for three behaviors (Conceptual Analysis, Courtesy to Coworkers, and Sets up Checks) showed no significant differences between cells. The effects for the remaining behaviors are shown in Table 4. As can be seen, some of the categories were used by all subjects as a reaction to situational demands, while other behaviors differed with LPC level and the situation. Thus, the tendency to give directions was greatly influenced by changes in position power and training, while pleading for cooperation was the result of changes in position power only. Asking for information and threatening, on the other hand, varied with the personality of the subject and the situation. Figures 3 and 4 illustrate these obtained interactions.

Insert Table 4 and Figures 3 and 4 about here

Figure 5 illustrates how these findings relate to the Contingency Model: Thus, relationship-motivated subjects requested most information in the more complex, moderately favorable situation (octant 5), but less

Table 2

Correlations Between Uncertainty and Behaviors

Uncertainty Correlated With	LPC		
	Low	Middle	High
	N = 34	N = 43	N = 45
Conceptual Analysis	- .43**	.01	.10
Courtesy to Coworkers	- .26	.04	- .17
Asks for Information	- .25	.08	.19#
Gives Directions	- .17	- .17	- .01
Sets up Checks	- .13	- .13	- .20
Threatens Retaliation	.41**	- .03	- .26*
Pleads for Cooperation	- .05	.17	- .19#

#p $\leq$ .10

*p $\leq$ .05

**p $\leq$ .01

Table 3

Means and Standard Deviations for all Behavior Categories and Uncertainty Scores

Behaviors	Octant 5			Octant 6			Octant 7			Octant 8		
	LPC			LPC			LPC			LPC		
	High	Mid	Low	High	Mid	Low	High	Mid	Low	High	Mid	Low
Conceptual Analysis	33.1	33.8	30.4	30.3	33.3	32.6	32.5	31.6	35.0	30.7	32.3	31.0
	7.2	4.4	4.1	8.1	5.6	7.6	3.9	4.9	3.4	8.3	4.9	7.4
Courtesy to Coworkers	25.4	26.7	22.5	24.8	27.4	29.2	28.5	25.2	24.4	27.7	28.8	25.8
	8.9	8.1	6.7	7.6	6.1	7.4	6.8	7.7	6.3	7.3	4.5	6.7
Asking for Information	32.2	29.9	23.8	24.8	31.8	24.3	27.2	26.3	26.8	27.3	25.6	31.1
	9.0	8.0	6.7	8.1	9.9	6.8	8.7	8.9	6.8	8.3	6.6	10.1
Giving Directions	48.3	47.4	49.5	44.5	44.7	44.4	40.9	43.8	48.7	37.8	41.6	44.4
	7.6	7.4	6.9	8.3	8.0	6.9	8.4	8.8	7.1	12.6	9.4	9.3
Sets up Checks	29.3	23.4	23.0	22.8	23.6	22.7	24.3	23.0	26.2	22.8	21.1	27.9
	11.7	6.9	13.7	8.0	7.7	8.5	11.6	9.1	6.8	8.1	5.9	9.6
Threatens Retaliation	19.8	15.8	24.9	14.9	15.5	17.0	17.9	20.0	25.9	14.3	16.4	14.8
	7.1	5.0	7.5	4.7	5.1	4.5	5.1	6.9	11.6	3.4	5.4	5.1

Table 3 (Continued)

	Octant 5			Octant 6			Octant 7			Octant 8		
	LPC			LPC			LPC			LPC		
	High	Mid	Low	High	Mid	Low	High	Mid	Low	High	Mid	Low
Pleads for Cooperation	15.3	15.3	14.8	17.2	17.7	22.0	15.6	14.1	14.2	18.2	20.5	17.6
	2.9	2.9	2.4	4.7	5.3	5.6	2.6	2.4	2.3	8.6	8.3	7.2
Uncertainty Scores	24.1	22.8	26.3	27.5	30.0	26.9	27.1	27.5	24.7	30.5	25.8	25.0
	6.5	8.0	4.8	8.5	4.5	7.3	6.5	4.8	9.9	7.7	5.6	5.0

*Means were obtained by summing the three rater-scores to the four In-Basket items for each subject and finding the mean score for all subjects within the particular octant. The means for the "Threatens Retaliation" and "Pleads for Cooperation" categories are relatively low because two of the four In-Basket items were written in such a way that the coworker replied positively to the request for help. Consequently, no threatening or pleading was required for obtaining cooperation.

Table 4

Results of Analyses of Variance for Behaviors

N = 122

Behavior		F	P
3. Asks for Information			
	Interaction: Training X LPC	3.29	.05
4. Gives Directions to Coworkers			
	Main-Effects: Position Power	4.87	.05
	Training	6.13	.05
6. Threatens Retaliation			
	Interaction: Position Power X LPC	3.74	.05
	Main-Effects: Position Power	19.08	.001
	LPC	4.95	.01
7. Pleads for Cooperation			
	Main-Effect: Position Power	16.61	.001

Figure 3

"Asks for Information" Category

Interaction between Training and LPC

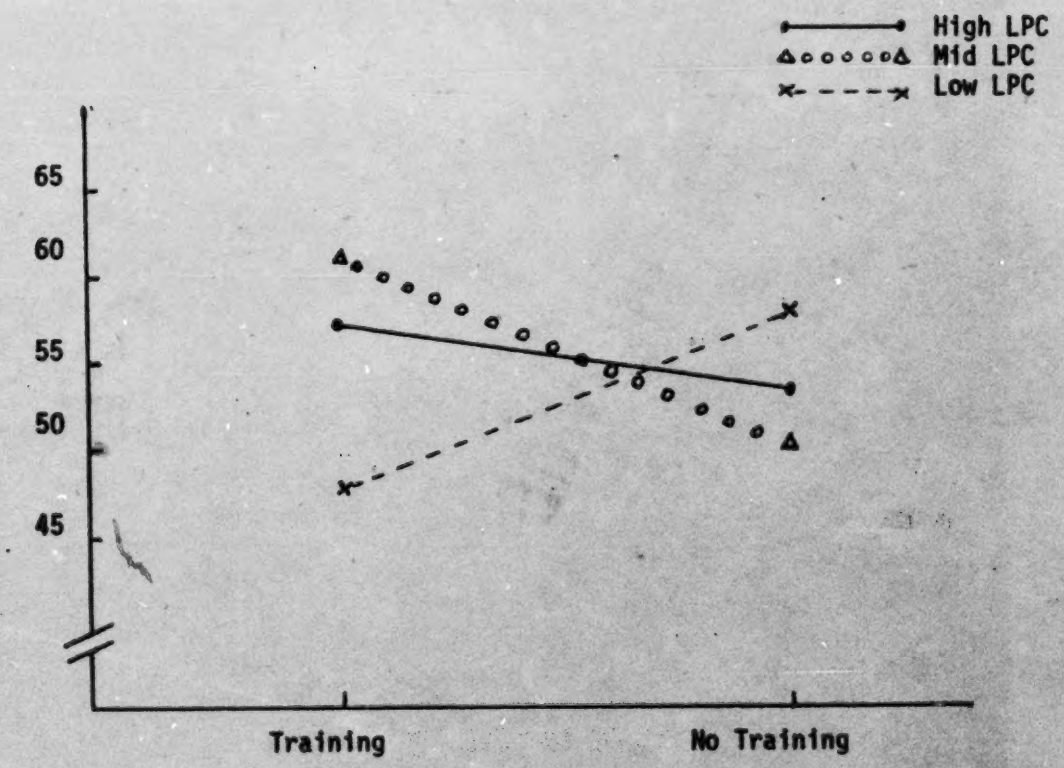
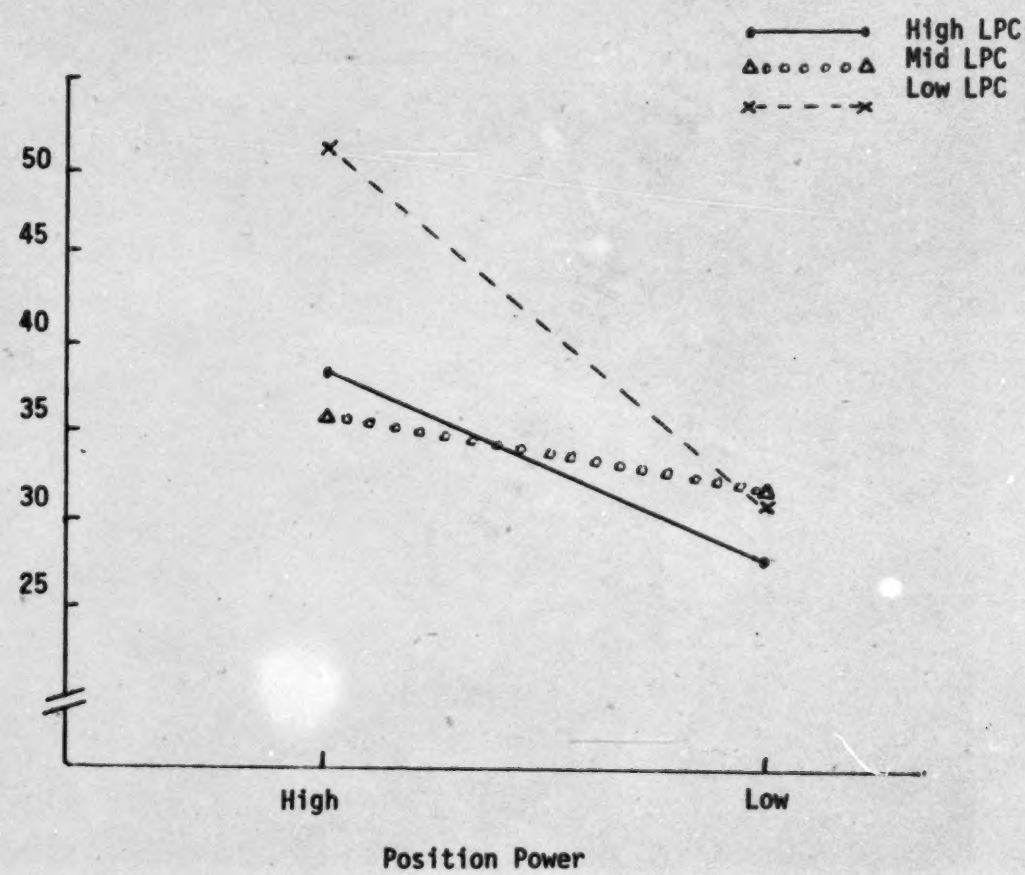


Figure 4

"Threatens Retaliation" Category

Interaction between Position Power and LPC



as the situation grew unfavorable and stressful (octant 8). In contrast, task-motivated subjects asked for little information in the moderately favorable situatio but requested a relatively great amount in the unfavorable situation. Independence-motivated subjects showed a strong reaction to training. They asked for information when they had received special instructions, but requested far less when training was absent.

Insert Figure 5 about here

Figure 6 illustrates how the "Threatens Retaliation" category was used differentially by leaders with different LPC levels. While task-motivated subjects used high position power to threaten and criticize their coworkers, relationship-motivated individuals with high position power used this behavior category considerably less. This suggests that task-motivated subjects are likely to feel that the completion of a task is of sufficient importance to justify threatening and criticiz ing. Relationship-motivated subjects, on the other hand, might refrain from using threats and criticisms to avoid a further deterioration of their interpersonal relationships. Independence-motivated subjects seemed to have been primarily influenced by training, as was the case with the "Asks for Information" category. As long as the task was relatively structured, they threatened little; but when they had not received training, and the task structure remained low, they threatenec somewhat more.

Insert Figure 6 about here

General Behavior Profiles

When all behavior categories were intercorrelated, separately by LPC level, several significant correlations were obtained, suggesting that different LPC

Figure 5

Means of "Asks for Information" Category

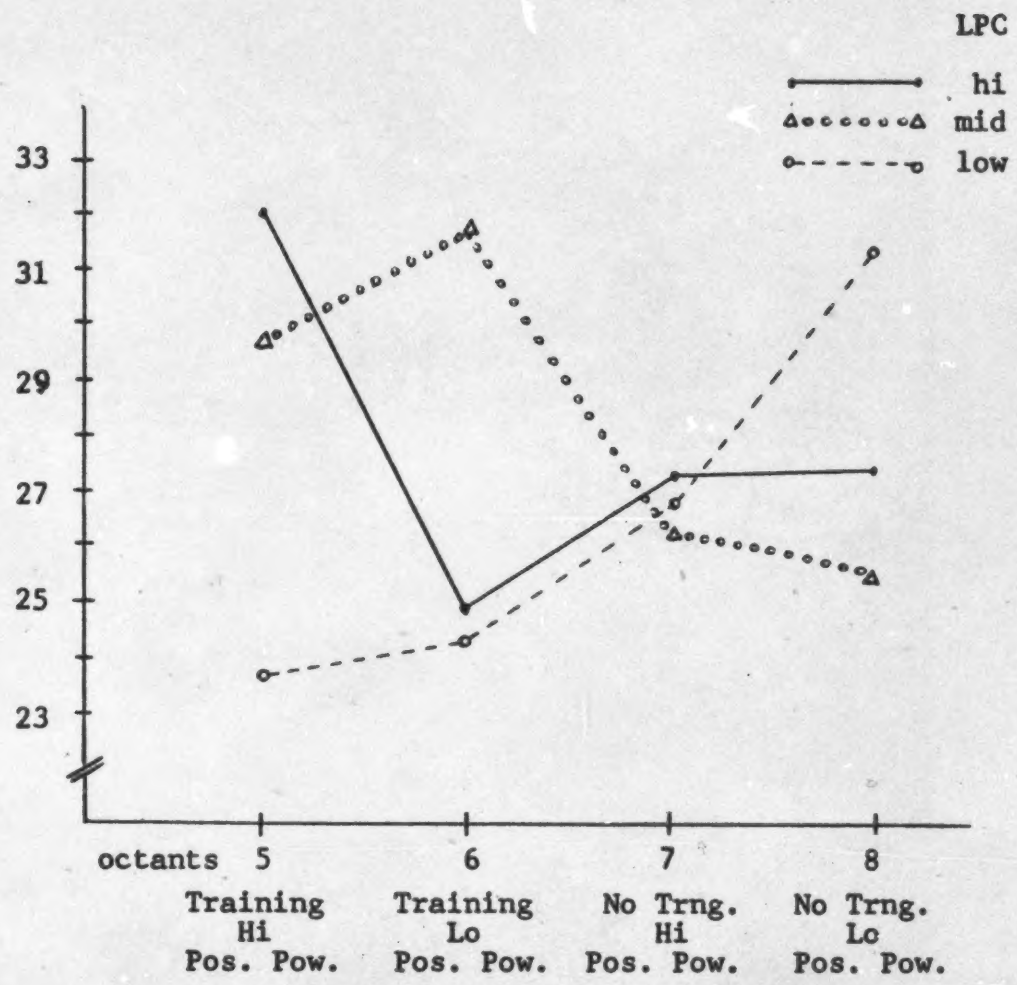
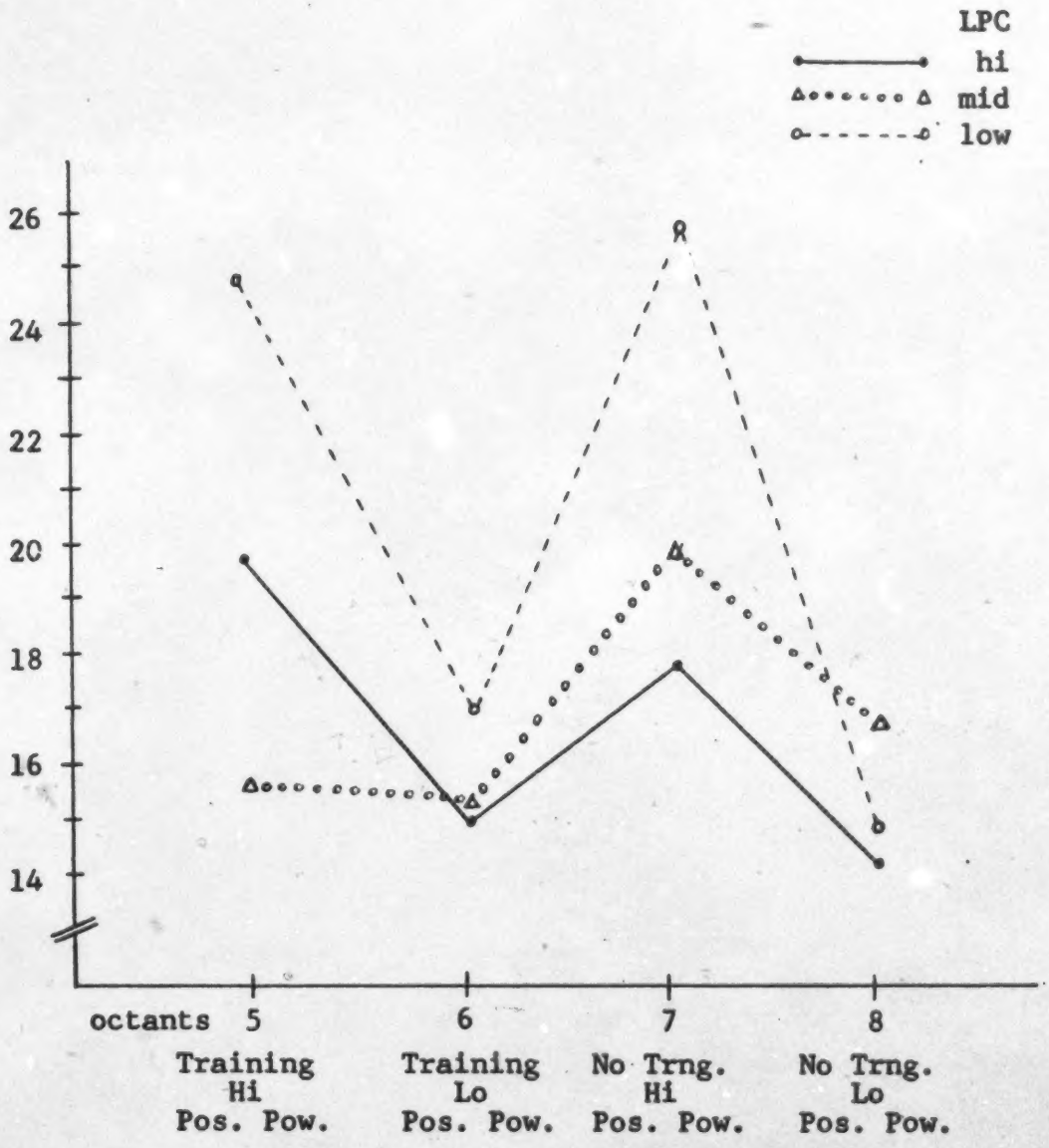


Figure 6

Means of "Threatens Retaliation" Category



subjects displayed different behavior patterns (see Table 5).

Insert Table 5 about here

Task-motivated individuals tended to be courteous primarily when they felt that the situation required pleading with subordinates (Pleading-Courtesy $r = .55$, $p \leq .001$). In those situations they refrained from structuring (Pleading-Gives Directions $r \leq -.50$, $p = .001$); Pleading-Sets up Checks $r = -.45$, $p \leq .01$).

Relationship-motivated individuals were also friendly in situations that requi pleading (Pleading-Courtesy $r = .47$, $p \leq .001$) but did not become significantly less friendly in situations in which they initiated structure and felt in control (Pleading-Gives Directions $r \leq -.21$, n.s.; Pleading-Sets up Checks $r \leq .16$, n.s.).

Independence-motivated subjects were considerably less courteous than either relationship- or task-motivated subjects in situations that elicited pleading (Pleading-Courtesy $r \leq .19$, n.s.). The main consideration for this group seemed to be whether or not they had understood the experimental task. When they did, they asked for information, gave directions, checked performance and even threatene (correlations between Conceptual Analysis and these behaviors are .30, $p \leq .05$; .66, $p \leq .001$; .26, $p \leq .05$; and .38, $p \leq .01$, respectively).

Most experiment participants, who had asked for information, also set deadline for when to receive it (Set up Checks) and gave further directions at the same time. Indicating that all LPC groups engage in structuring behaviors, although the do this under different circumstances (as illustrated with Figure 5).

Our first hypothesis stated that if all conditions in this study fall into the lower half of the situational favorableness continuum, low LPC subjects would engag in more task-oriented behaviors than high LPC subjects, while high LPC subjects would strive to improve their relations with coworkers to a greater extent than low

Table 5

Correlations Between Behavior Categories

(separated by LPC score)

Behavior	LPC	Conc. Anal.	Courtesy	Asking for Info.	Gives Directions	Sets up Checks	Threatens
Courtesy	Lo	.26					
	Mid	-.13					
	High	.37**					
Asking for Info.	Lo	.34*	-.15				
	Mid	.30*	-.02				
	High	.51***	.16				
Gives Directions	Lo	.24	-.32*	.35*			
	Mid	.66***	-.22	.30*			
	High	.34**	-.15	.46***			
Sets up Checks	Lo	.09	-.30*	.73***	.56***		
	Mid	.26*	.00	.72***	.43**		
	High	.24	.21	.71***	.34*		
Threatens	Lo	-.16	-.27	-.35*	-.04	-.23	
	Mid	.38**	-.13	-.15	.12	-.09	
	High	.25*	.06	-.15	-.07	-.07	

Table 5 (Continued)

Behavior	LPC	Conc. Anal.	Courtesy	Asking for Info.	Gives Directions	Sets up Checks	Threatens
Pleads	Lo	-.03	.55***	-.34*	-.50***	-.45**	-.30*
	Mid	-.04	.19	-.31*	-.23	-.23	.15
	High	.13	.47***	-.03	-.21	.16	-.00

N = 34 for Low LPC
N = 43 for Middle LPC
N = 45 for High LPC

* $p \leq .05$
** $p \leq .01$
*** $p \leq .001$

LPC subjects. When we assume that threatening and criticizing are used as a means to induce coworkers to get on with the job and when we interpret a low level of threatening and criticizing as an attempt to improve human relations, the hypothesis was supported for this behavior category. Additional support for this hypothesis came from the category "Gives directions to Coworkers." Low LPC subjects gave significantly more directions in this experiment than high LPC subjects ($t = 2.08$, $df = 7$, $p = .04$), indicating that they were mainly occupied with getting the job done.

Effects of Mental Ability

Table 6 shows the correlations between Wonderlic Personnel Test scores and all behavior categories. As hypothesized, the correlations indicate that high scoring individuals had a better understanding of the In-Basket task than those with lower scores; they also asked for more information and gave significantly more directions and suggestions than low scoring individuals. High scores on the Wonderlic Personnel Test correlated negatively with pleas for cooperation. Thus, better educated subjects might also be more autonomous and felt less need for ingratiation.

Insert Table 6 about here

Since this study employed college students only, it must be pointed out that the Wonderlic Personnel Test scores did not have the same range as they might have in the general population. The correlations between the particular behaviors and mental ability could be generally higher than was the case in this experiment.

In order to examine whether mental ability had a moderating effect on the behavior categories in this study, analyses of covariance were performed (Table 7). Although scores on the Wonderlic Test were highly correlated with several behaviors this did not significantly change the analyses of variance results reported in Table 4. The only significant change occurred in the "Asks for Information"

Table 6

Correlations Between Wonderlic Personnel Test And Behavior Categories

Test Score correlated with	r
Conceptual Analysis	.32***
Courtesy to Coworkers	-.03
Asks for Information	.34***
Gives Directions	.26**
Sets up Checks	.17*
Threatens Retaliation	-.08
Pleads for Cooperation	-.19*

N = 122

*p $\leq$.05

**p $\leq$.01

***p $\leq$.001

category, where the interaction between training and the LPC score changed from $F = 3.287$, $p = .04$ to $F = 2.912$, $p = .059$. The analyses of covariance did show that two of the previously non-discriminating behaviors, "Conceptual Analysis" and "Sets up Checks", were differentially used by individuals with higher and lower levels of achievement.

Insert Table 7 about here

Summary of Results for Independence-Motivated Leaders

As mentioned in the introduction, indepencence-motivated leaders (subjects that score in the middle range of the LPC scale) were included in this study for exploratory purposes. The foregoing results indicate that their behavior was less influenced by the position power manipulation than that of either the relationship- or the task-motivated subjects. Instead, they appeared most influenced by whether or not they had understood the experimental task, which was in part a function of training. When they had understood the In-Basket problems, they engaged in structuring behaviors and were not concerned with being courteous. When they were not as clearly informed about the task, as in octants 7 and 8, they reacted by asking for less information and being more threatening (Figures 5 and 6), perhaps as an expression of frustration.

It might be hypothesized that independence-motivated leaders would benefit to a larger extent from training programs, which are geared at improving task structure, than either task-motivated or relationship-motivated individuals.

Discussion

The results of this study suggest that directing and pleading are situation ally determined behaviors while searching for information as well as threatening and criticizing are the result of an interaction between the situation and the

Table 7

Results of Analyses of Covariance, with the Wonderlic Personnel Test Scores as Covariate

N = 122

Criterion Variable	Regression F	P
Conceptual Analysis	12.11	.001
Courtesy to Coworkers	.00	n.s.
Asks for Information	15.64	.001
Gives Directions	6.80	.01
Sets up Checks	3.88	.05
Threatens Retaliation	1.49	n.s.
Pleads for Cooperation	3.56	n.s.

personality of the subject. Thus, when subjects are given power and training, they engage in directive behaviors, but when they lack power they respond with pleading. The obtained person-situation interactions point to individual differences in leadership styles. Task-motivated leaders do not hesitate to threaten and criticize to accomplish the task, while relationship-motivated leaders strive to remain in good standing with their coworkers and tread more softly.

However, the most striking result of this study is the finding that a relatively short and non-intense training program resulted in a search for information under different conditions. Thus, relationship motivated leaders requested information in situations that appear to be comfortable and secure to them (conditions with training and high position power), while task-motivated leaders did so when their work was unstructured and they were only given minimal control (conditions without training and low position power). This finding is highly relevant to the predictions of the Contingency Model. Previous empirical studies have shown that relationship-motivated leaders generally perform best under moderately favorable conditions (octant 5 in this experiment), but task-motivated leaders do so when the conditions are unfavorable (octant 8). Therefore, different styles in searching for information may well be decisive in determining a leader's success or failure.

However, a word of caution in interpreting these results is in order. The study was conducted with female college students under laboratory conditions, and the generalizability of the findings needs to be established for other populations and under field conditions. Nevertheless, the results are consistent with earlier research. It is also possible that significant differences for four out of seven behavior categories were found as a result of our method of behavior analysis. This procedure enabled us to arrive at the most relevant categories for the In-Basket task. However, since this was the first time that this group of behaviors had been utilized in a laboratory experiment, all categories will have to be validated. A second study, now in progress, will attempt to do so.

For future field-studies it is recommended that the relationship between the search for information and performance be explored further. Should it be found that these are significantly correlated, then training, which was shown to influence the search for information, could be administered selectively. For example, a relationship-motivated leader in an unfavorable work environment could be expected to increase his or her search for information after receiving training, while a task-motivated leader would refrain from doing so. Thus, on the basis of the Contingency Model it could be decided which leaders would benef from training and which would not.

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Instructions: Your experiment ID number _____

Please answer the following questions by placing an "X" on the space above the line that best describes your reaction. The closer your "X" approaches either end of the line, the more you agree with the statement at the end.

Example: How interesting was this experiment to you?

Very interesting	:	:	:	:	X	:	:	:	:	Not interesting at all
		8	7	6	5	4	3	2	1	

This answer would indicate that it was somewhat interesting, but that you were not particularly overwhelmed.

---

1) How well did you understand the instructions?

Not at all	:	:	:	:	:	:	:	:	:	Very well
	8	7	6	5	4	3	2	1	

2) How much influence did you, Kim Stratford, have on the students in setting up and conducting the In-Basket Experiment?

No influence	:	:	:	:	:	:	:	:	:	A lot of Influence
	8	7	6	5	4	3	2	1	

3) Did you, as Kim Stratford, feel you had power to retaliate against non-cooperative students?

Power to retaliate	:	:	:	:	:	:	:	:	:	No power to do anything
	8	7	6	5	4	3	2	1	

4) With reference to the instructional pages, how interested do you think the students would be in performing well in the experiment set-up?

Not interested	:	:	:	:	:	:	:	:	:	Very interested
	8	7	6	5	4	3	2	1	

5) How well did the experimental instructions prepare you for the types of decisions you had to make as a participant in this experiment?

The approach to use was well described	:	:	:	:	:	:	:	:	:	No hints were provided
	8	7	6	5	4	3	2	1	

6) To what extent did you, as a participant in today's session, feel that Kim Stratford's experiment was structured?

Structured	:	:	:	:	:	:	:	:	:	Unstructured
	8	7	6	5	4	3	2	1	

II

Your experiment ID number _____

GROUP ATMOSPHERE SCALE

Please describe how you perceive the atmosphere in today's experimental session by checking the following items.

Pleasant	: 8 : 7 : 6 : 5 : 4 : 3 : 2 : 1 :	Unpleasant
Friendly	: 8 : 7 : 6 : 5 : 4 : 3 : 2 : 1 :	Unfriendly
Bad	: 8 : 7 : 6 : 5 : 4 : 3 : 2 : 1 :	Good
Worthless	: 8 : 7 : 6 : 5 : 4 : 3 : 2 : 1 :	Valuable
Distant	: 8 : 7 : 6 : 5 : 4 : 3 : 2 : 1 :	Close
Cold	: 8 : 7 : 6 : 5 : 4 : 3 : 2 : 1 :	Warm
Quarrelsome	: 8 : 7 : 6 : 5 : 4 : 3 : 2 : 1 :	Harmonious
Self-assured	: 8 : 7 : 6 : 5 : 4 : 3 : 2 : 1 :	Hesitant
Efficient	: 8 : 7 : 6 : 5 : 4 : 3 : 2 : 1 :	Inefficient
Gloomy	: 8 : 7 : 6 : 5 : 4 : 3 : 2 : 1 :	Cheerful

Your Experiment ID Number _____

Instruction:

The Task that you have just completed asked you to make several decisions. The following questions deal with this part of the experiment. Please answer them by placing an "X" on the place of the line that best describes your reaction. The closer your "X" approaches either end of the line, the more you agree with the statement at that end.

Example: How certain were you that you wanted to take part in this experiment?

Very certain :__:__:__:__:__:X:__:__: Not certain at all
8 7 6 5 4 3 2 1

This example-answer would indicate that you were quite uncertain about your participation.

---

1) How certain were you that the method you used in dealing with the In-Basket Items was the best one for the particular situation?

Not certain at all :__:__:__:__:__:__:__:__: Very Certain
8 7 6 5 4 3 2 1

2) Did you feel that you had all the information for making the In-Basket-Item decisions?

The info. was unsatisfactory :__:__:__:__:__:__:__:__: All necessary information was given
8 7 6 5 4 3 2 1

3) When working with the students on the experiment set-up, how certain were you about how they wanted the job done?

Very uncertain :__:__:__:__:__:__:__:__: Very certain
8 7 6 5 4 3 2 1

4) How often were you in doubt about how to obtain the information you needed for making decisions in the situation?

Never in doubt :__:__:__:__:__:__:__:__: Always in doubt
8 7 6 5 4 3 2 1

5) How sure were you that you had met the expectations of those you dealt with in setting up the experiment?

Not sure at all :__:__:__:__:__:__:__:__: Very sure
8 7 6 5 4 3 2 1

6) How sure were you about how to act in order to meet the expectations of the students?

Very sure :__:__:__:__:__:__:__:__: Not sure at all
8 7 6 5 4 3 2 1

Think of the person with whom you can work least well. He/she may be someone you work with now, or someone you knew in the past.

He/she does not have to be the person you like least well, but should be the person with whom you had the most difficulty in getting a job done. Describe this person as he/she appears to you.

Pleasant	: 8 : 7 : 6 : 5 : 4 : 3 : 2 : 1 :	Unpleasant
Friendly	: 8 : 7 : 6 : 5 : 4 : 3 : 2 : 1 :	Unfriendly
Rejecting	: 8 : 7 : 6 : 5 : 4 : 3 : 2 : 1 :	Accepting
Helpful	: 8 : 7 : 6 : 5 : 4 : 3 : 2 : 1 :	Frustrating
Unenthusiastic	: 8 : 7 : 6 : 5 : 4 : 3 : 2 : 1 :	Enthusiastic
Tense	: 8 : 7 : 6 : 5 : 4 : 3 : 2 : 1 :	Relaxed
Distant	: 8 : 7 : 6 : 5 : 4 : 3 : 2 : 1 :	Close
Cold	: 8 : 7 : 6 : 5 : 4 : 3 : 2 : 1 :	Warm
Cooperative	: 8 : 7 : 6 : 5 : 4 : 3 : 2 : 1 :	Uncooperative
Supportive	: 8 : 7 : 6 : 5 : 4 : 3 : 2 : 1 :	Hostile
Boring	: 8 : 7 : 6 : 5 : 4 : 3 : 2 : 1 :	Interesting
Quarrelsome	: 8 : 7 : 6 : 5 : 4 : 3 : 2 : 1 :	Harmonious
Self-assured	: 8 : 7 : 6 : 5 : 4 : 3 : 2 : 1 :	Hesitant
Efficient	: 8 : 7 : 6 : 5 : 4 : 3 : 2 : 1 :	Inefficient
Gloomy	: 8 : 7 : 6 : 5 : 4 : 3 : 2 : 1 :	Cheerful
Open	: 8 : 7 : 6 : 5 : 4 : 3 : 2 : 1 :	Guarded

Definitions of Scoring Categories

1. Conceptual Analysis

General definition: This category refers to the S's recognition of implications of the problem and/or action and/or solution. Score here if the S makes it clear in her response that she has seen more than the immediate implications of the problem(s) presented by the item.

Score here

1 - lack of conceptual grasp

2 - weak grasp of 1 item

3 - moderate grasp of 1 item; mentions more than 1 item

4 - excellent grasp of 1 item; good grasp of more than 1 item

5 - elaborates on total problem and mentions several items

Do not score here if the S merely asks for more information, states a need for guidance or help, notes another's abilities or qualities for handling a particular item, or notes priority or urgency.

2. Courtesy to Coworkers

General definition: Score here any expression or act of courtesy directed by the S to coworkers. The courtesy may be formal, such as "please," "thank you," "sorry," or it may be more expansive.

Score here

1 - no courtesy

2 - routine words of courtesy

3 - weak offer to be of help; formal appreciation

4 - strong offer to be of help; encouragement

5 - stronger types of courtesies, appreciation, commendation

Do not score here headings, formal greetings (e.g. Dear), salutations, and complimentary closings.

3. Asks for Information, Opinion, or Advice from Coworker

General definition: Score here any communication, actual or planned, in which the S asks for task-relevant information, opinion, or advice.

Score here

1 - no request

2 - not sure if request for information is expressed

3 - request for general information

4 - request for specific information w/o giving reason for needing it

5 - request for specific information, giving explicit reason for needing it

Do not score here if the S is asking merely a rhetorical question.

4. Gives Directions to Coworkers

General definition: Score here any response in which the S plans to or actually gives directions to coworker.

Score here

1 - no directions

2 - you might want to check...

3 - could you inquire about ...; keep me informed

4 - would you please...

5 - explicit (one or more directions)

5. Sets up Checks on Coworker

General definition: Score here if the S explicitly checks or plans to check on the work she assigns or has assigned to the coworker.

Score here

1 - no checks

2 - let me know if convenient; keep me informed

3 - see me when you are done

4 - higher, when a specific date is mentioned

5 - explicit request for specific date and feedback

6. Threatens Retaliation for Non-Compliance

General definition: Score here any response in which the S reminds the coworker of her responsibilities and threatens with punishment in case of

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non-compliance.

Score here

1 - no threat or criticism

2 - implied criticism

3 - criticizes

4 - invokes consequences

5 - threatens

7. Pleads for Cooperation

General definition: Score here any response in which the S pleads with the coworker for cooperation and attempts to coax and cajole her into helping.

Score here

1 - no pleading

2 - slight coaxing

3 - whining and coaxing

4 - encouragement to please cooperate

5 - strong request for cooperation